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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/771,705

02/04/2004

Junichi Ito

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EXAMINER

WANG, KENT F

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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09/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/771,705	Applicant(s) ITO, JUNICHI	
	Examiner Kent Wang	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,9,12 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 5 is/are allowed.
- 6) ☒ Claim(s) 9, 12, and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments, filed on 06/15/2007, have been entered and made of record. Claims 1, 5, 9, 12, and 14-16 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 5, 9, 12, 14, and 15 have been considered but are moot in view of the new ground(s) or rejection.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 9 and 14 are rejected under 35 U.S.C. § 102(b) as being anticipated by Terane, JP 07-151946.

Regarding claim 9, Terane discloses an imager apparatus (a camera) in which an optical member (lens 3, Fig 1) protecting an imaging element (image-sensing element 5, Fig 1) is vibrated to remove dust from the optical member (lens 3), said apparatus comprising:

- a vibration member (ultrasonic transducer 15, Fig 1) which vibrates the optical member (lens 3) for a predetermined time (for a certain period of time) ([0010] and [0022]);

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- a photographing-condition setting unit (imaging circuit 6, Fig 1) which sets a photographing condition (for selecting a photographing condition) ([0009] and [0043]); and
- a vibration- time changing unit (control unit 11, Fig 1) which changes the predetermined time (ultrasonic transducer 15 is driven via the control unit, [0015]) for which the vibration member (ultrasonic transducer 15) vibrates the optical member (lens 3), in accordance with the photographing condition set by the photographing-condition setting unit ([0015] and Fig 9).

Regarding claim 14, Terane discloses an imager apparatus (a camera) in which an optical member (lens 3, Fig 1) protecting an imaging element (image-sensing element 5, Fig 1) is vibrated to remove dust from the optical member (lens 3), said apparatus comprising:

- a vibration member (ultrasonic transducer 15, Fig 1) which vibrates the optical member (lens 3) ([0010]);
- a photographing-condition setting unit (imaging circuit 6, Fig 1) which sets a photographing condition (for selecting a photographing condition) ([0009] and [0043]); and
- an operation-timing setting unit (control unit 11, Fig 1) which sets a timing at which the vibration member is operated (ultrasonic transducer 15 is driven via the control unit, [0015]), in accordance with the photographing condition set by the photographing-condition setting unit (imaging circuit 6, Fig 1) ([0015] and [0022]),
- wherein the operation-timing setting unit (control unit 11) causes the vibration member to operate during an exposure operation of the imaging element (a

contaminant can be removed regardless of the drive of the focus motor 42, [0021]), in accordance with the condition set by the photographing-condition setting unit (imaging circuit 6) ([0015], [0021], and [0022]).

Claim Rejections - 35 USC § 103

5. Claims 12 and 15-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Terane in view of Sano, US 4,920,420.

Regarding claim 12, note the discussion of claims 9 and 14 above. Terane does not teach the photographing-condition setting unit sets exposure time or selects an exposure operation in a bulb state. However, Sano teaches a photographing-condition setting unit sets exposure time or selects an exposure operation in a bulb state (a light amount detecting circuit 82, Fig 18 detects increase in amount of light which is received by the image pickup device so that high frequency component of the video signal increases therefore the magnitude of vibration changes) (col. 20, lines 1-32, Sano).

It would have been obvious to one of ordinary skill in the art at the time this invention was made to have used a light amount detecting circuit as taught by Sano as modified by Terane so that it can preventing the magnitude of the vibration changes due to the amount of light which is received by the image pickup device (col. 20, lines 29-32, Sano).

Regarding claim 15, note the discussion of claims 9 and 14 above. Terane does not teach the operation-timing setting unit causes the vibration member to intermittently operate during an exposure operation of the imaging element. However, Sano teaches a the operation-timing setting unit (a timer circuit 46, Fig 15) causes the vibration member to intermittently operate

during an exposure operation of the imaging element (lens group 6b is vibrated for a period of time then is stopped, after the elapse of the period of time the lens group is again vibrated), in accordance with the condition set by the photographing-condition setting unit (col. 14, lines 20-27, Sano).

It would have been obvious to one of ordinary skill in the art at the time this invention was made to have used a operation-timing setting unit as taught by Sano as modified by Terane so that it can preventing unnecessary vibration caused at the time of the stop of lens group and the focusing state can be accurately discriminated (col. 14, lines 28-34, Sano).

Regarding claim 16, note the discussion of claims 9 and 14 above. Terane does not teach the vibration-time changing unit increases the predetermined time when the photographing-condition setting unit sets a high resolution as a resolution for images to be photographed. However, Sano teaches a vibration-time changing unit (a timer circuit 46, Fig 15) increases the predetermined time when the photographing-condition setting unit sets a high resolution as a resolution for images to be photographed (when the number of cycles of the vibration increases the reliability of the synchronous detection by the sync detecting circuit is improved thus a higher resolution of image is photographed, col. 15, lines 35-41, Sano).

It would have been obvious to one of ordinary skill in the art at the time this invention was made to have used a timer circuit 46 as taught by Sano as modified by Terane so that the quality of the images captured can be improved (col. 15, lines 35-41, Sano).

Allowable Subject Matter

6. Claims 1 and 5 are allowed.

The following is an examiner's statement of reasons for allowance: As to independent claim 1, the prior art does not teach or fairly suggest a vibration-time setting unit which sets, when the photographing-mode setting unit sets the photographing mode to a continuous photographing mode, a first time as the predetermined time for a first photographing operation, and a second time as the predetermined time for each of subsequent photographing operations from a second photographing operation onward. As to independent claim 5, the prior art does not teach or fairly suggest a photographing-mode setting unit when selects a single-shot photographing mode, the operation-prohibiting unit permits the vibration member to operate each time a photographing operation is performed, and when the photographing-mode setting unit selects a continuous photographing mode, the operation-prohibiting unit permits the operation-prohibiting unit to operate only at a first photographing, and prohibits the vibration member from operating at subsequent photographing from a second photographing onward.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until

after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kent Wang whose telephone number is 571-270-1703. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-270-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


NGOC-YEN VU
SUPERVISORY PATENT EXAMINER